US009516106B2

(12) **United States Patent**
Andrews et al.

(10) **Patent No.: US 9,516,106 B2**
(45) **Date of Patent: *Dec. 6, 2016**

(54) **SYSTEM AND METHOD FOR PEER-TO-PEER MANAGEMENT THROUGH POLICY AND CONTEXT REPLICATION**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/019,224**

(22) Filed: **Feb. 9, 2016**

(65) **Prior Publication Data**

US 2016/0156706 A1 Jun. 2, 2016

(51) **Int. Cl.**

H04L 29/08	(2006.01)
H04L 29/06	(2006.01)
H04W 12/04	(2009.01)

(52) **U.S. Cl.**

CPC ***H04L 67/104*** (2013.01); ***H04L 67/34*** (2013.01); *H04L 63/061* (2013.01); *H04W 12/04* (2013.01)

(58) **Field of Classification Search**

CPC H04L 67/104; H04L 67/34; H04L 63/061; H04L 12/04; H04W 12/04

USPC 709/227

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,064,973	A	5/2000	Smith et al.	
7,664,885	B2 *	2/2010	Carapelli	H01Q 1/00 709/220
2006/0080321	A1 *	4/2006	Horn	G06F 17/30867
2007/0060103	A1	3/2007	Patterson et al.	
2007/0140696	A1 *	6/2007	DeCusatis	H04J 14/08 398/98
2000/8028900		11/2008	Brown et al.	
2009/0235244	A1	9/2009	Enomori et al.	
2010/0242037	A1	9/2010	Xie et al.	
2011/0289202	A1	11/2011	Riley	
2012/0155646	A1	6/2012	Seshadri et al.	

* cited by examiner

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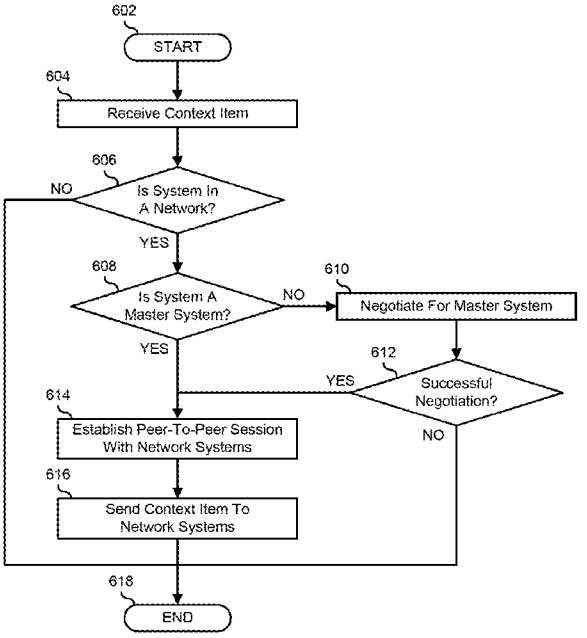
(57) **ABSTRACT**

A method of context replication including receiving a first context item at a first system in a network, determining that the first system is a context management master system, establishing a first peer-to-peer session with a second system in the network in response to determining that the first system is the context management master system, and providing, from the first system, the first context item to the second system.

14 Claims, 5 Drawing Sheets



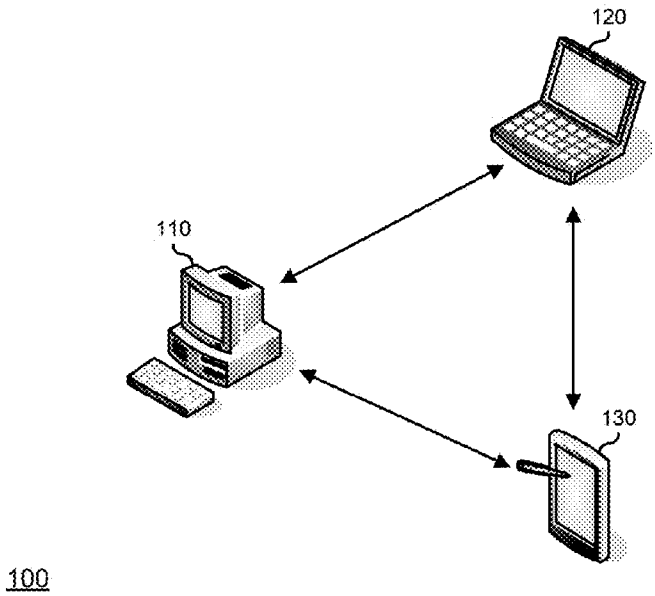


FIG. 1

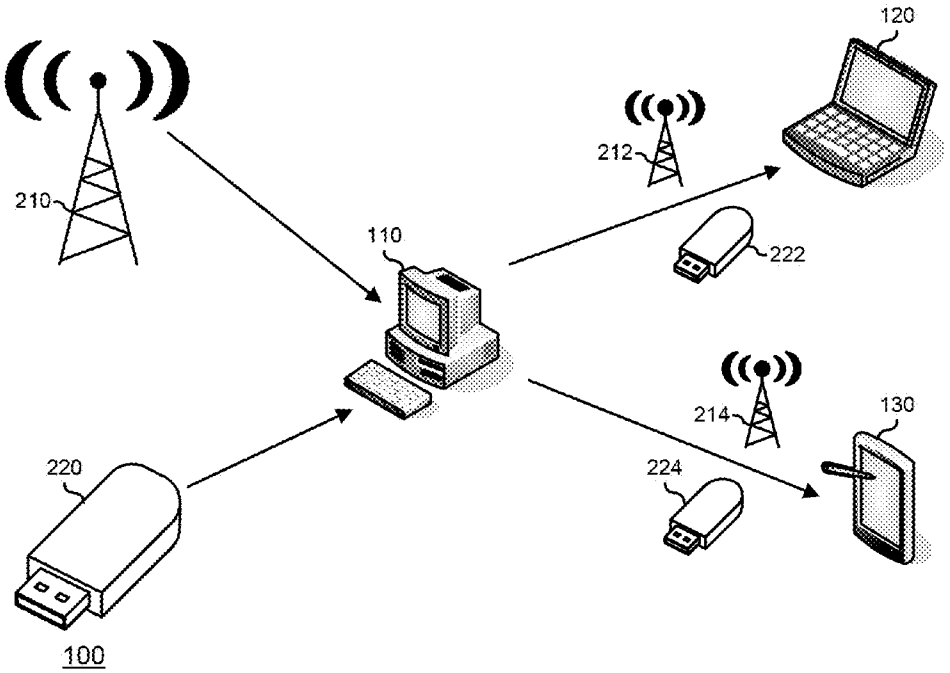


FIG. 2

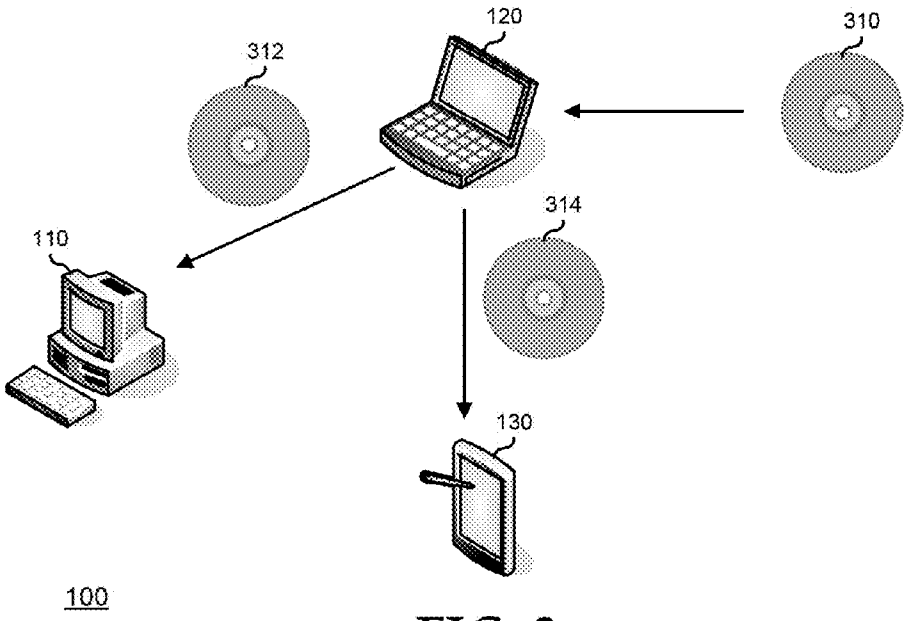


FIG. 3

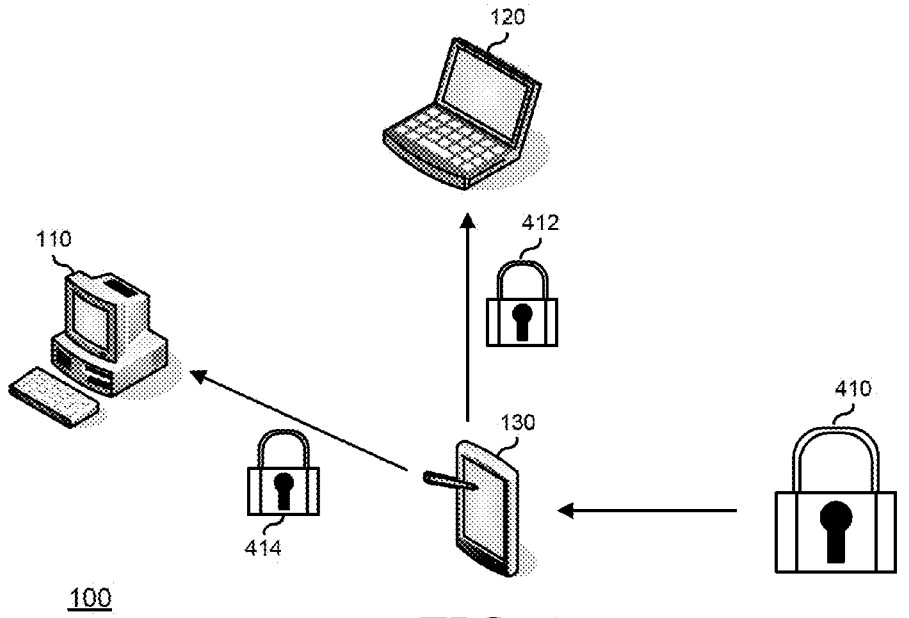


FIG. 4

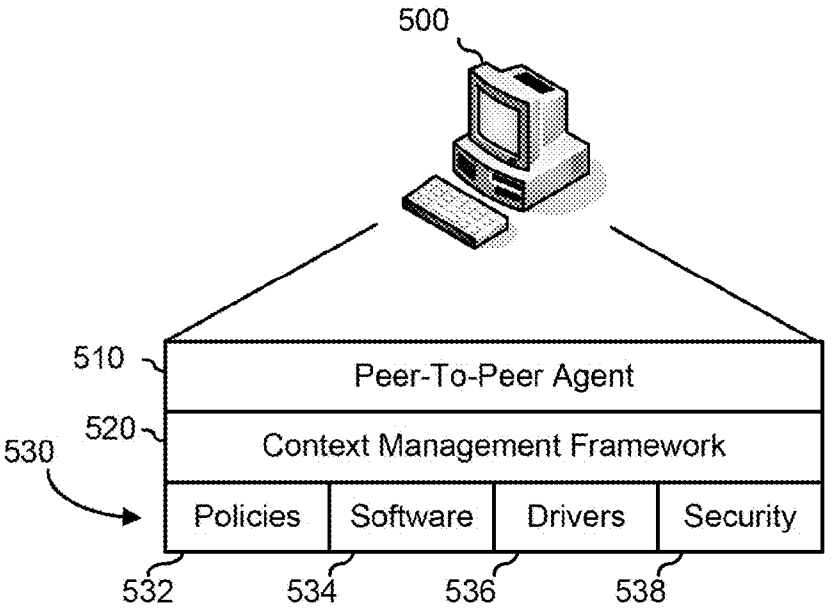

500
510
Peer-To-Peer Agent
520
Context Management Framework
530
Policies
Software
Drivers
Security
532
534
536
538

FIG. 5

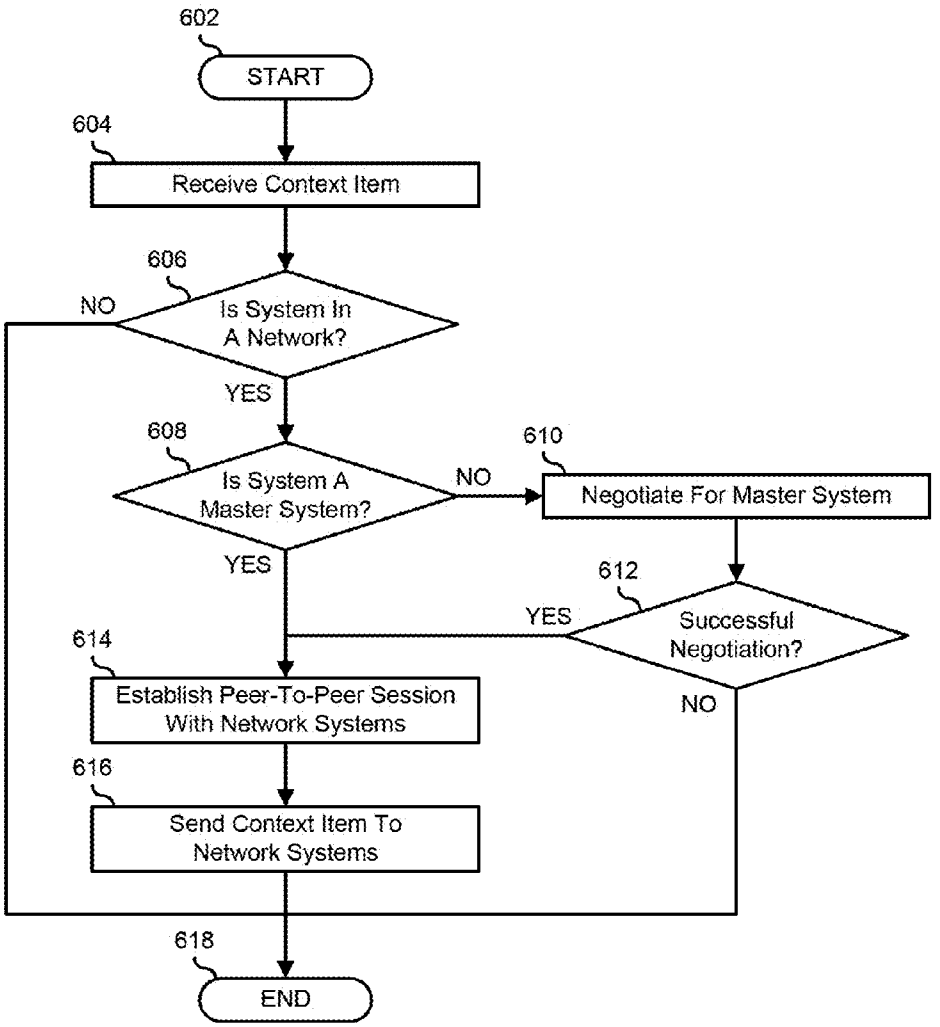

602
START
604
Receive Context Item
606
Is System In A Network?
NO
YES
608
Is System A Master System?
NO
610
Negotiate For Master System
612
Successful Negotiation?
YES
NO
614
Establish Peer-To-Peer Session With Network Systems
616
Send Context Item To Network Systems
618
END

FIG. 6

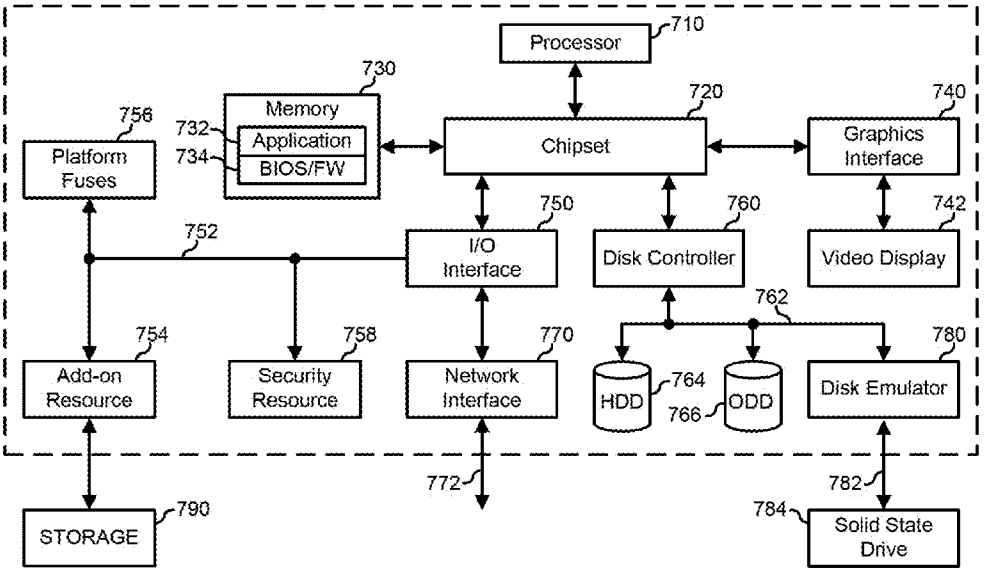

Processor
710
730
Memory
732
Application
734
BIOS/FW
720
Chipset
740
Graphics Interface
756
Platform Fuses
752
750
I/O Interface
760
Disk Controller
742
Video Display
762
754
Add-on Resource
758
Security Resource
770
Network Interface
764
HDD
766
ODD
780
Disk Emulator
772
782
784
790
STORAGE
Solid State Drive
700

FIG. 7

SYSTEM AND METHOD FOR PEER-TO-PEER MANAGEMENT THROUGH POLICY AND CONTEXT REPLICATION

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. patent application Ser. No. 13/680,179, entitled "System and Method for Peer-to-Peer Management Through Policy and Context Replication," filed on Nov. 19, 2012, the disclosure of which is hereby expressly incorporated by reference in its entirety.

FIELD OF THE DISCLOSURE

This disclosure relates generally to information handling systems, and relates more particularly to peer-to-peer management through policy and context replication.

BACKGROUND

As the value and use of information continues to increase, individuals and businesses seek additional ways to process and store information. One option is an information handling system. An information handling system generally processes, compiles, stores, or communicates information or data for business, personal, or other purposes. Because technology and information handling needs and requirements can vary between different applications, information handling systems can also vary regarding what information is handled, how the information is handled, how much information is processed, stored, or communicated, and how quickly and efficiently the information can be processed, stored, or communicated. The variations in information handling systems allow information handling systems to be general or configured for a specific user or specific use such as financial transaction processing, airline reservations, enterprise data storage, or global communications. In addition, information handling systems can include a variety of hardware and software resources that can be configured to process, store, and communicate information and can include one or more computer systems, data storage systems, and networking systems. An information handling system can include virtual machines that run operating systems and applications on a common host system.

BRIEF DESCRIPTION OF THE DRAWINGS

It will be appreciated that for simplicity and clarity of illustration, elements illustrated in the Figures have not necessarily been drawn to scale. For example, the dimensions of some of the elements are exaggerated relative to other elements. Embodiments incorporating teachings of the present disclosure are illustrated and described with respect to the drawings presented herein, in which:

FIGS. **1-4** are block diagrams of a network according to an embodiment of the present disclosure;

FIG. **5** is a block diagram of a system of the network of FIGS. **1-4**;

FIG. **6** is a flow diagram of a method of peer-to-peer management through policy and context replication according to an embodiment of the present disclosure; and

FIG. **7** is a functional block diagram illustrating an exemplary embodiment of an information handling system.

The use of the same reference symbols in different drawings indicates similar or identical items.

DETAILED DESCRIPTION OF DRAWINGS

The following description in combination with the Figures is provided to assist in understanding the teachings disclosed herein. The following discussion focuses on specific implementations and embodiments of the teachings. This focus is provided to assist in describing the teachings, and should not be interpreted as a limitation on the scope or applicability of the teachings. However, other teachings can be used in this application. The teachings can also be used in other applications, and with several different types of architectures, such as distributed computing architectures, client/server architectures, or middleware server architectures and associated resources.

FIG. **1** illustrates a network **100** for one or more information handling systems. For purpose of this disclosure, an information handling system may include any instrumentality or aggregate of instrumentalities operable to compute, classify, process, transmit, receive, retrieve, originate, switch, store, display, manifest, detect, record, reproduce, handle, or utilize any form of information, intelligence, or data for business, scientific, control, entertainment, or other purposes. For example, an information handling system may be a personal computer, a PDA, a consumer electronic device, a network server or storage device, a switch router or other network communication device, or any other suitable device and may vary in size, shape, performance, functionality, and price. The information handling system may include memory, one or more processing resources such as a central processing unit (CPU) or hardware or software control logic, and operates to execute code. Additional components of the information handling system may include one or more storage devices that can store code, one or more communications ports for communicating with external devices as well as various input and output (I/O) devices, such as a keyboard, a mouse, and a video display. The information handling system may also include one or more buses operable to transmit communications between the various hardware components.

Network **100** includes systems **110**, **120**, and **130** that are connected together via one or more communication interfaces. Network **100** represents a home network or small business network. For example, where network **100** represents a home network, system **110** can represent one or more desktop computers, system **120** can represent one or more laptop computers, and system **130** can represent one or more mobile devices such as smart phones, tablet devices, or other mobile computing devices. In another example, where network **100** represents a small business network, system **110** can represent one or more workstation or desktop computers, system **120** can represent one or more laptop computers, and system **130** can represent one or more mobile devices such as smart phones, tablet devices, or other mobile computing devices. In a particular embodiment, network **100** includes other systems or devices, such as a game console, a television, a set-top box, another media device, a memory storage array, a network switch, a router, a firewall, or other network device. Systems **110**, **120**, and **130** are connected together via one or more local area network (LAN) or wireless network (WiFi) interfaces, such as an Ethernet interface, a universal serial bus (USB) interface, or another LAN interface, an IEEE 802.11a/b/g/n interfaces, a Bluetooth interface, or another WiFi interface, or a combination thereof, as needed or desired. In a particular embodiment, network **100** is also connected to a wide area network

(WAN) such as a digital subscriber line (DSL) network, an Internet service provider (ISP) network, or another WAN, as needed or desired.

Network **100** is characterized in that systems **110**, **120**, and **130** are not maintained and managed by a centralized system. Thus, systems **110**, **120**, and **130** can be provided with policies, software, drivers, security keys, and the like, by a user of network **100**. In a particular embodiment, each of systems **110**, **120**, and **130** are maintained and managed separately. As such, a user of network **100** can determine a network access policy to be implemented in the network, and can separately set up each of systems **110**, **120**, and **130** with the network access policy. For example, each of systems **110**, **120**, and **130** can be separately set up to enforce a parental control policy, a power management policy, or the like. The user can likewise determine that each of systems **110**, **120**, and **130** are to be provided with common software or device drivers, and can separately install the software or device drivers on each system. Further, the user can separately provide each of systems **110**, **120**, and **130** with a common security key, such as a WiFi access credential for network **100**, a network password, or the like.

In another embodiment, maintenance or management of one of systems **110**, **120**, or **130** is propagated through network **100**, such that the other systems are similarly maintained and managed. As such, the user of network **100** can determine a network access policy to be implemented in the network, and can set up one of systems **110**, **120**, or **130** with the network access policy, and can direct that system to propagate the access policy to the other systems. For example, system **110** can be set up to enforce a parental control policy, a power management policy, or the like, and system **110** can propagate the policy to systems **120** and **130**. The user can likewise determine that each of systems **110**, **120**, and **130** are to be provided with common software or device drivers. The user can install the software or device drivers on one of systems **110**, **120**, or **130**, and the installation can be propagated to the other systems. Further, the user can provide one of systems **110**, **120**, or **130** with a security key, such as a WiFi access credential for network **100**, a network password, or the like, and the security key can be propagated to the other systems.

FIG. **2** illustrates an embodiment of network **100** where system **110** receives a network access policy **210** and a hardware access policy **220**. For example, network access policy **210** can include a WiFi access credential, a parental control policy, or another policy that governs the access to a network resource. Hardware access policy **220** can include a USB access policy that governs the ability of system **110** to transfer files to, or read files from a USB storage device, or that permits only registered USB storage devices to be used on the system. Network access policy **210** and hardware access policy **220** can be implemented on system **110** by a user of network **100**, or can be received from another system, such as a policy management system (not illustrated).

In this embodiment, system **110** operates as a master system for policy management to distribute network access policy **210** and hardware access policy **220** to systems **120** and **130**. Here, when system **110** receives network access policy **210**, a first copy **212** of the network access policy is provided to system **120**, and a second copy **214** is provided to system **130**. Similarly, when system **110** receives hardware access policy **220**, a first copy **222** of the hardware access policy is provided to system **120**, and a second copy **224** is provided to system **130**. In a particular embodiment, system **110** is designated as the policy management master system based upon a configuration of network **100** where the designation is static and is limited to the system. In another embodiment, system **110** is designated as the policy management master system based upon the fact that network access policy **210** and hardware access policy **220** are first provided to the system. Here, for example, if network access policy **210** had been received by system **120**, then system **120** would operate as the policy management master system to provide copies of the network access policy to systems **110** and **130**. In yet another embodiment, system **110** is designated as the policy management master system based upon the fact that the system is logged as the policy management master system for network **100**. Here, any one of systems **110**, **120**, and **130** can be logged as the policy management master system for network **100**, for example by a user who has a password authentication to make policy changes to the network.

FIG. **3** illustrates an embodiment of network **100** where system **120** receives software **310**. For example, software **310** can include a new software program, an update to an existing software program, a device driver, or the like. Software **310** can be provided to system **120** by a user of network **100**, or can be received from another system, such as a software or driver update system (not illustrated). In this embodiment, system **120** operates as a master system for software management to distribute software **310** to systems **110** and **130**. Here, when system **120** receives software **310**, a first copy **312** of the software is provided to system **110**, and a second copy **314** is provided to system **130**. System **120** is designated as the software management master by one or more of the methods described above.

FIG. **4** illustrates an embodiment of network **100** where system **130** receives a security key **410**. For example, security key **410** can include a WiFi or other network access password, an encryption key, or another type of security information, as needed or desired. Security key **410** can be provided to system **130** by a user of network **100**, or can be received from another system, such as a security update system (not illustrated). In this embodiment, system **130** operates as a master system for security management to distribute security key **410** to systems **110** and **120**. Here, when system **130** receives security key **410**, a first copy **412** of the security key is provided to system **110**, and a second copy **414** is provided to system **120**. System **130** is designated as the security management master by one or more of the methods described above. The skilled artisan will understand that the roles of policy management master system, software management master system, and security management master system are roles that can be assumed by any one or more of systems **110**, **120**, and **130**.

FIG. **5** illustrates a system **500** similar to systems **110**, **120**, or **130**. System **500** includes a peer-to-peer agent **510**, a context management framework **520**, and a group of context items **530**. Context items **530** include policies **532**, software **534**, drivers **536**, and security elements **538**. When system **500** receives a new or updated context item **530**, context management framework **520** invokes peer-to-peer agent **510** to establish a peer-to-peer session with another system. Context management framework **520** operates to determine if the other system has received the context item **530**. If not, context management framework **520** becomes the master system for the context item **530** can directs peer-to-peer agent **510** to provide a copy of the context item to the other system. In the other system, a context management framework similar to context management framework **520** operates to install the copy of the context item in the other system. In this way, system **500** operates to propagate

changes in the context of the system to other systems in the network. In a particular embodiment, context management framework **520** can negotiate with the context management framework of the other system to establish which system is the master system. Here, system **500** can provide the copy of the context item **530**, and also cede the control of context management to the other system, and the other system can operate to propagate changes in the context of the system to other systems in the network.

In a particular embodiment, system **500**, system **500** is initially configured with context item **530**. Here, when system **500** is connected to another system in a network similar to network **100**, context management framework **520** can determine that the system is a master system, and that context item **530** is to be distributed to the other system. Then, context management framework **520** invokes peer-to-peer agent **510** to establish a peer-to-peer session with the other system, and determines if the other system has received the context item **530**. If not, then in its designation as the master system, context management framework **520** directs peer-to-peer agent **510** to provide a copy of the context item to the other system, and a context management framework in the other system installs the copy of the context item in the other system. In this way, system **500** operates to propagate the original context to other systems in the network.

FIG. **6** illustrates a method of peer-to-peer management through policy and context replication beginning at block **602**. A context item, such as a new or updated policy, new or updated software or driver, a new or updated security key, or the like is received at a system in block **604**. A decision is made as to whether or not the system that received the context item is in a network in decision block **606**. If not, the "NO" branch of decision block **606** is taken, and the method ends in block **618**. If the system is in a network, the "YES" branch of decision block **606** is taken, and a decision is made as to whether or not the system is a context management master system in decision block **608**. If so, the "YES" branch of decision block **608** is taken and the method proceeds to block **614**, as described below.

If the system is not the context management master system, the "NO" branch of decision block **608** is taken, the system negotiates to become the context the management master system in block **610**, and a decision is made as to whether or not the system successfully negotiated to become the context management master system in decision block **612**. If not, the "NO" branch of decision block **612** is taken, and the method ends in block **618**. If the system successfully negotiated to become the context management master, the "YES" branch of decision block **612** is taken, and the method continues in block **614**, as described below. If either the system is determined to be the context management master system, as determined in decision block **608**, or the system successfully negotiated to become the context management master system as determined in decision block **612**, the system establishes a peer-to-peer session with the systems in the network in block **614**. Once the peer-to-peer sessions are established, the system sends the context item to the systems in the network in block **616**, and the method ends in block **618**.

FIG. **7** illustrates an information handling system **700**, including a processor **710**, a chipset **720**, a memory **730**, a graphics interface **740**, an input/output (I/O) interface **750**, a disk controller **760**, a network interface **770**, and a disk emulator **780**. In a particular embodiment, information handling system **700** is used to carry out one or more of the methods described herein. In another embodiment, one or more of the systems described herein are implemented in the form of information handling system **700**.

Chipset **720** is connected to and supports processor **710**, allowing the processor to execute machine-executable code. In a particular embodiment, information handling system **700** includes one or more additional processors, and chipset **720** supports the multiple processors, allowing for simultaneous processing by each of the processors and permitting the exchange of information among the processors and the other elements of the information handling system. Chipset **720** can be connected to processor **710** via a unique channel, or via a bus that shares information among the processor, the chipset, and other elements of information handling system **700**.

Memory **730** is connected to chipset **720**. Memory **730** and chipset **720** can be connected via a unique channel, or via a bus that shares information among the chipset, the memory, and other elements of information handling system **700**. In another embodiment (not illustrated), processor **710** is connected to memory **730** via a unique channel. In another embodiment (not illustrated), information handling system **700** includes separate memory dedicated to each of the one or more additional processors. A non-limiting example of memory **730** includes static random access memory (SRAM), dynamic random access memory (DRAM), non-volatile random access memory (NVRAM), read only memory (ROM), flash memory, another type of memory, or any combination thereof.

Graphics interface **740** is connected to chipset **720**. Graphics interface **740** and chipset **720** can be connected via a unique channel, or via a bus that shares information among the chipset, the graphics interface, and other elements of information handling system **700**. Graphics interface **740** is connected to a video display **742**. Other graphics interfaces (not illustrated) can also be used in addition to graphics interface **740** as needed or desired. Video display **742** includes one or more types of video displays, such as a flat panel display, another type of display device, or any combination thereof.

I/O interface **750** is connected to chipset **720**. I/O interface **750** and chipset **720** can be connected via a unique channel, or via a bus that shares information among the chipset, the I/O interface, and other elements of information handling system **700**. Other I/O interfaces (not illustrated) can also be used in addition to I/O interface **750** as needed or desired. I/O interface **750** is connected via an I/O interface **752** to one or more add-on resources **754**. Add-on resource **754** is connected to a storage system **790**, and can also include another data storage system, a graphics interface, a network interface card (NIC), a sound/video processing card, another suitable add-on resource or any combination thereof. I/O interface **750** is also connected via I/O interface **752** to one or more platform fuses **756** and to a security resource **758**. Platform fuses **756** function to set or modify the functionality of information handling system **700** in hardware. Security resource **758** provides a secure cryptographic functionality and includes secure storage of cryptographic keys. A non-limiting example of security resource **758** includes a Unified Security Hub (USH), a Trusted Platform Module (TPM), a General Purpose Encryption (GPE) engine, another security resource, or a combination thereof.

Disk controller **760** is connected to chipset **720**. Disk controller **760** and chipset **720** can be connected via a unique channel, or via a bus that shares information among the chipset, the disk controller, and other elements of information handling system **700**. Other disk controllers (not illus-

trated) can also be used in addition to disk controller **760** as needed or desired. Disk controller **760** includes a disk interface **762**. Disk controller **760** is connected to one or more disk drives via disk interface **762**. Such disk drives include a hard disk drive (HDD) **764**, and an optical disk drive (ODD) **766**, and can include one or more disk drive as needed or desired. ODD **766** can include a Read/Write Compact Disk (R/W-CD), a Read/Write Digital Video Disk (R/W-DVD), a Read/Write mini Digital Video Disk (R/W mini-DVD, another type of optical disk drive, or any combination thereof. Additionally, disk controller **760** is connected to disk emulator **780**. Disk emulator **780** permits a solid-state drive **784** to be coupled to information handling system **700** via an external interface **782**. External interface **782** can include industry standard busses such as USB or IEEE 1394 (Firewire) or proprietary busses, or any combination thereof. Alternatively, solid-state drive **784** can be disposed within information handling system **700**.

Network interface device **770** is connected to I/O interface **750**. Network interface **770** and I/O interface **750** can be coupled via a unique channel, or via a bus that shares information among the I/O interface, the network interface, and other elements of information handling system **700**. Other network interfaces (not illustrated) can also be used in addition to network interface **770** as needed or desired. Network interface **770** can be a network interface card (NIC) disposed within information handling system **700**, on a main circuit board such as a baseboard, a motherboard, or any combination thereof, integrated onto another component such as chipset **720**, in another suitable location, or any combination thereof. Network interface **770** includes a network channel **772** that provide interfaces between information handling system **700** and other devices (not illustrated) that are external to information handling system **700**. Network interface **770** can also include additional network channels (not illustrated).

Information handling system **700** includes one or more application programs **732**, and Basic Input/Output System and Firmware (BIOS/FW) code **734**. BIOS/FW code **734** functions to initialize information handling system **700** on power up, to launch an operating system, and to manage input and output interactions between the operating system and the other elements of information handling system **700**. In a particular embodiment, application programs **732** and BIOS/FW code **734** reside in memory **730**, and include machine-executable code that is executed by processor **710** to perform various functions of information handling system **700**. In another embodiment (not illustrated), application programs and BIOS/FW code reside in another storage medium of information handling system **700**. For example, application programs and BIOS/FW code can reside in HDD **764**, in a ROM (not illustrated) associated with information handling system **700**, in an option-ROM (not illustrated) associated with various devices of information handling system **700**, in storage system **790**, in a storage system (not illustrated) associated with network channel **772**, in another storage medium of information handling system **700**, or a combination thereof. Application programs **732** and BIOS/FW code **734** can each be implemented as single programs, or as separate programs carrying out the various features as described herein.

In the embodiments described herein, an information handling system includes any instrumentality or aggregate of instrumentalities operable to compute, classify, process, transmit, receive, retrieve, originate, switch, store, display, manifest, detect, record, reproduce, handle, or use any form of information, intelligence, or data for business, scientific, control, entertainment, or other purposes. For example, an information handling system can be a personal computer, a consumer electronic device, a network server or storage device, a switch router, wireless router, or other network communication device, a network connected device (cellular telephone, tablet device, etc.), or any other suitable device, and can vary in size, shape, performance, price, and functionality. The information handling system can include memory (volatile (e.g. random-access memory, etc.), nonvolatile (read-only memory, flash memory etc.) or any combination thereof), one or more processing resources, such as a central processing unit (CPU), a graphics processing unit (GPU), hardware or software control logic, or any combination thereof. Additional components of the information handling system can include one or more storage devices, one or more communications ports for communicating with external devices, as well as, various input and output (I/O) devices, such as a keyboard, a mouse, a video/graphic display, or any combination thereof. The information handling system can also include one or more buses operable to transmit communications between the various hardware components. Portions of an information handling system may themselves be considered information handling systems.

When referred to as a "device," a "module," or the like, the embodiments described herein can be configured as hardware. For example, a portion of an information handling system device may be hardware such as, for example, an integrated circuit (such as an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA), a structured ASIC, or a device embedded on a larger chip), a card (such as a Peripheral Component Interface (PCI) card, a PCI-express card, a Personal Computer Memory Card International Association (PCMCIA) card, or other such expansion card), or a system (such as a motherboard, a system-on-a-chip (SoC), or a stand-alone device). The device or module can include software, including firmware embedded at a device, such as a Pentium class or PowerPC™ brand processor, or other such device, or software capable of operating a relevant environment of the information handling system. The device or module can also include a combination of the foregoing examples of hardware or software. Note that an information handling system can include an integrated circuit or a board-level product having portions thereof that can also be any combination of hardware and software.

Devices, modules, resources, or programs that are in communication with one another need not be in continuous communication with each other, unless expressly specified otherwise. In addition, devices, modules, resources, or programs that are in communication with one another can communicate directly or indirectly through one or more intermediaries.

Although only a few exemplary embodiments have been described in detail herein, those skilled in the art will readily appreciate that many modifications are possible in the exemplary embodiments without materially departing from the novel teachings and advantages of the embodiments of the present disclosure. Accordingly, all such modifications are intended to be included within the scope of the embodiments of the present disclosure as defined in the following claims. In the claims, means-plus-function clauses are intended to cover the structures described herein as performing the recited function and not only structural equivalents, but also equivalent structures.

What is claimed is:

1. A method of context replication, the method comprising:

designating a first information handling system as a context management master system for a home network in response to receiving a first context item, wherein the context item includes one of a policy, a software program, a device driver, and a security key;

establishing a first peer-to-peer session between the first information handling system and a second information handling system;

determining that the second information handling system has not received the first context item; and

providing, from the first information handling system, the first context item to the second information handling system in response to determining that the second information handling system has not received the first context item.

2. The method of claim 1, further comprising:

negotiating, by the second information handling system, to become the context management master system;

establishing a second peer-to-peer session between the second information handling system a third information handling system in the network in response to negotiating to become the context management master system; and

providing, from the second information handling system, a second context item to the third information handling system.

3. The method of claim 1, wherein determining that the first information handling system is the context management master system further comprises:

determining that a third information handling system in the network is the context management master system; and

negotiating, by the first information handling system, to become the context management master system.

4. The method of claim 3, wherein:

the first information handling system includes a context management framework; and

the negotiating is done by the context management framework.

5. The method of claim 1, wherein the network comprises an enterprise network.

6. An information handling system comprising:

a memory; and

a processor that:

designates the information handling system as a context management master system for a network in response to receiving a first context item wherein the context item includes one of a policy, a software pro: ram, a device driver, and a security key;

establishes a first peer-to-peer session between the information handling system and a first network system in response to designating the information handling system as the context management master system;

provides the first context item to the first network system;

receives a second context item;

establishes a second peer-to-peer session between the first network system and a second network system; and

provides the second context item to the second network system.

7. The information handling system of claim 6, wherein in designating the information handling system as the context management master system, the processor further:

determines that a second network system is the context management master system; and

negotiates with the second network system to become the context management master system.

8. The information handling system of claim 7, wherein:

the information handling system includes a context management framework; and

the negotiating is done by the context management framework.

9. The information handling system of claim 6, wherein the network comprises a home network.

10. The information handling system of claim 6, wherein the network comprises an enterprise network.

11. A non-transitory computer-readable medium including code for performing a method, the method comprising:

designating a first information handling system as a context management master system for a network in response to receiving a first context item wherein the context item includes one of a policy, a software program, a device driver, and a security key;

establishing a first peer-to-peer session between the first information handling system and a second information handling system; and

providing, from the first information handling system, the first context item to the second information handling system in response to determining that the second information handling system has not received the first context item;

wherein:

the first information handling system includes a context management framework; and

the negotiating is done by the context management framework.

12. The computer-readable medium of claim 11, the method further comprising:

receiving a second context item at the second information handling system;

negotiating, by the second information handling system, to become the context management master system;

establishing a second peer-to-peer session between the second information handling system and a third information handling system in the network in response to negotiating to become the context management master system; and

providing, from the second information handling system, the second context item to the third information handling system.

13. The computer-readable medium of claim 11, wherein in determining that the first system is the context management master system the method further comprises:

determining that a third information handling system in the network is the context management master system; and

negotiating, by the first information handling system, to become the context management master system.

14. The computer-readable medium of claim 11, wherein the network comprises a home network.

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